

CLAIMS

1. A gelled composition which is usable in the fields of agriculture and/or public health or domestic hygiene, characterized in that it comprises
- 5 - one or more active substances usable in said fields;
- one or more gellable dendrimers;
- an inorganic or organic liquid carrier.
2. The composition as claimed in claim 1,
- 10 characterized in that it comprises one or more pesticide active substances in particular of the type including herbicides and/or fungicides and/or insecticides and/or acaricides and/or rodenticides and/or nematocides and/or repellent for insect and/or
- 15 animal pests, and/or one or more insecticides and/or plant growth regulating active substances.
3. The composition as claimed in either of claims 1 and 2, characterized in that it comprises one or more additives and/or adjuvants and/or anticaking
- 20 agents and/or colorants and/or thickeners and/or surfactants and/or antifoaming compounds and/or detergents and/or alkalinizing agents and/or bonding agents and/or emulsifiers and/or dispersants and/or oxidizing agents and/or anticorrosive agents and/or
- 25 attractants and/or food substances, these compounds being preferably present in quantities of between 0 and 50% by weight.

4. The composition as claimed in any one of claims 1 to 3, characterized in that the active substance(s) is (are) present in quantities of between 0.5 and 99.99%, preferably between 5 and 70% by weight.

5 5. The composition as claimed in any one of claims 1 to 4, characterized in that it comprises a dendrimer which, when mixed with water, or solubilized in water, in respective proportions by weight of 1.5/98.5, at a temperature of about 65°C, makes it
10 possible, after 48 hours, to obtain a gelled product which does not flow when it is placed, in the form of a cubic mass, on a flat surface, preferably a dendrimer which, when mixed with water, or solubilized in water, in respective proportions by weight of 1/1, at room
15 temperature makes it possible, after two weeks, to obtain a gelled product which does not flow when it is placed, in the form of a cubic mass, on a flat surface; more preferably, a dendrimer which, after mixing with water, or solubilizing in water, in respective
20 proportions by weight of 1.8/98.2, at a temperature which may be between 40 and 65°C, and then heating for 4 weeks at a temperature of about 60-65°C, makes it possible to obtain a gelled product which does not flow when it is placed, in the form of a cubic mass, on a
25 flat surface.

6. The composition as claimed in any one of claims 1 to 5, characterized in more preferably that it

comprises a neutral dendrimer, in particular a dendrimer whose terminal functional groups essentially consist of groups of the carboxylic acid type and/or phosphonic type and/or sulfonic, sulfonate or sulfate type and/or amine type, and/or in that it comprises a
5 dendrimer of the ionic type, in particular a dendrimer whose terminal functional groups are chosen from the carboxylate and/or sulfonium and/or phosphonium and/or amidinium and/or guanidinium and/or ammonium groups,
10 preferably the groups of the secondary tertiary or quaternary ammonium type or pyridinium type, more preferably from the groups of the N-hydrazinoylcarbonylmethyl-N,N,N-trialkylammonium halide type, in particular of the N-hydrazinoylcarbonylmethyl-
15 N,N,N-trimethylammonium chloride type or N-hydrazinoylcarbonylmethyl-N,N,N-pyridinium chloride type or N-hydrazinoylcarbonylmethyl-N,N,N-tri-(n-propyl)ammonium chloride type.

7. The composition as claimed in any one of
20 claims 1 to 6, characterized in that it comprises a dendrimer whose terminal functional groups are attached to the ends of the branched chains or dendrons which constitute the branches of said dendrimer, either directly or by means of a connecting member, said
25 connecting member being preferably composed of a hydrocarbon radical containing from 2 to 50 atoms, preferably from 4 to 20 atoms and which may be

saturated or unsaturated and/or linear or branched and/or substituted or unsubstituted, or of a hydrocarbon radical also containing one or more heteroatoms, in particular oxygen, sulfur, nitrogen, phosphorus, halogens.

8. The composition as claimed in any one of claims 1 to 7, characterized in that it comprises a dendrimer carrying bonds between atoms from group fifteen in the periodic table of chemical elements, in particular between phosphorus atoms and nitrogen atoms, the number of said bonds being preferably between 2 and 80 000, more preferably between 20 and 20 000.

9. The composition as claimed in any one of claims 1 to 8, characterized in that it comprises a dendrimer whose core constitutes a polyfunctional organic chemical group; and/or whose organic core possesses a multiple valency, preferably a valency of between 2 and 20, more preferably between 3 and 10; and/or whose core is composed of a hydrocarbon and/or heteroatom radical containing from 1 to 30 atoms, preferably a linear or branched or cyclic or even polycyclic and/or saturated or unsaturated and/or substituted or unsubstituted hydrocarbon and/or heteroatom radical; and/or whose core contains one or more heteroatoms chosen from oxygen, sulfur, nitrogen, phosphorus or halogens, preferably chlorine, more preferably said core contains up to 100%, as number of

atoms, of said heteroatoms, and/or whose core consists of a radical derived from hexachlorocyclotriphosphazene or trichlorothiophosphane.

10. The composition as claimed in any one of
5 claims 1 to 9, characterized in that it comprises a dendrimer whose dendrons are composed of hydrocarbon radicals and/or hydrocarbon radicals comprising heteroatoms chosen from oxygen, sulfur, nitrogen, phosphorus, halogens, preferably chlorine; and/or whose
10 dendrons are composed of branched chains containing identical chemical motifs, preferably 10%, more preferably 20%, of the total number of said chemical motifs are identical.

11. The composition as claimed in any one of
15 claims 1 to 10, characterized in that it comprises a gellable dendrimer whose structure comprises volumes for insertion of two types which are

- the inner cavities of the dendrimer whose sizes are preferably between 0.001 and 30 nm³,
20 preferably between 0.01 and 10 nm³;

- the interstitial spaces of the three-dimensional structure of the gel whose sizes are preferably between 0.0005 and 50 μm³, more preferably between 0.001 and 20 μm³.

25 12. The composition as claimed in any one of claims 1 to 11, characterized in that it comprises a

quantity of dendrimer of between 0.01 and 99.5%, preferably between 0.1 and 60% by weight.

13. The composition as claimed in any one of claims 1 to 12, characterized in it comprises a
5 quantity of dendrimer of between 0.01 and 99.5%, preferably between 0.1 and 60% by weight. that at least half of the active substance(s) is(are) contained in the interstitial spaces of the three-dimensional structure of the gel.

10 14. The composition as claimed in any one of claims 1 to 13, characterized in that at least half of the active substance(s) is(are) contained in the interstitial spaces of the three-dimensional structure of the gel. the liquid carrier or solvent which it
15 contains is water and/or one or more organic solvents.

15. The composition as claimed in any one of claims 1 to 14, characterized in that the liquid carrier or solvent which it contains is water and/or one or more organic solvents. a quantity of solvent of
20 between 0 and 99% by weight.

16. The composition as claimed in any one of claims 1 to 15, characterized in that it contains a quantity of solvent of between 0 and 99% by weight.

releases gradually and/or in a controlled
25 manner all or some of the active substance which is usable in particular in the fields of agriculture and/or public health or domestic hygiene which it

contains, preferably of releasing at least 50%, more preferably at least 80%, of said active substance which it contains.

17. A method for preparing a composition as claimed in any one of claims 1 to 16, characterized in that it comprises the steps

a) of solubilizing, preferably in the hot state, a mixture comprising in particular one or more active substances which are usable in the fields of agriculture and/or public health or domestic hygiene, one or more gellable dendrimers and an inorganic or organic liquid carrier;

b) of heating said mixture for 0.25 to 45 days, at a temperature of about 60-65°C, preferably at a temperature of about 35-40°C.

18. A method for the preparation of a pulverulent compound, characterized in that it comprises the step of completely or partially removing the solvent(s) from a composition as claimed in any one of claims 1 to 16 and/or the step of grinding the composition obtained.

19. A pulverulent composition which is usable in the fields of agriculture and/or public health or domestic hygiene and capable of being obtained according to the process of claim 18.

20. The pulverulent composition as claimed in claim 19, characterized in that, when mixed with a

solvent and/or with a mixture of solvents, it is capable of taking the form of a composition according to any one of claims 1 to 16.

21. The pulverulent composition as claimed
5 in either of claims 19 and 20, characterized in that it comprises one or more formulation adjuvants and/or additives, in particular anticaking agents, colorants, thickeners, surfactants, antifoaming compounds, detergents, dispersants, alkalizing agents, bonding
10 agents, emulsifiers, oxidants or anticorrosive agents.

22. The pulverulent composition as claimed
in any one of claims 19 to 21, characterized in that it comprises a quantity of active substances of between 2
and 99.99%, preferably between 5 and 95% by weight and
15 a quantity of dendrimer of between 0.01 and 99.5%, preferably between 0.5 and 50% by weight.

23. The pulverulent composition as claimed
in any one of claims 19 to 22, characterized in that it is incorporated into a composition chosen from those of
20 the type including aerosol dispenser; bait (ready-for-use); bait concentrate; stock bait; capsule suspension; cold fogging product; dusting powder; emulsifiable concentrate; oil-in-water emulsion; water-in-oil emulsion; encapsulated granule; fine granule;
25 suspension concentrate for seed treatment; gas; gas generating product; grain bait; granular bait; granule; hot fogging product; macrogranule; microgranule; oil-

dispersible powder; oil miscible suspension
concentrate; oil miscible liquid; paste; plant rodlet;
plate bait; powder for dry seed treatment; scrap bait;
treated or coated seeds; smoke candle; smoke cartridge;
5 smoke generator; smoke pellet; smoke rodlet; smoke
tablet; smoke tin; soluble concentrate; soluble powder;
liquid for seed treatment; suspension concentrate (= flowable concentrate); tracking powder; ultra low
volume liquid; ultra low volume suspension; vapor
10 releasing product; water dispersible granules or
tablets; water dispersible powder for slurry treatment;
water soluble granules or tablets; water soluble powder
for seed treatment; wettable powder.

24. The pulverulent composition as claimed
15 in any one of claims 19 to 23, characterized in that it
releases gradually and/or in a controlled manner all or
some of the active substance which is usable in
particular in the fields of agriculture and/or public
health or domestic hygiene which it contains,
20 preferably of releasing at least 50%, more preferably
at least 80%, of the active substance which is usable
in particular in the fields of agriculture and/or
public health or domestic hygiene which it contains.

25. A method for and/or the treatment and/or
25 protection of crops, characterized in that it uses a
composition as claimed in any one of claims 1 to 16 and
19 to 24, said composition comprising one or more

active substances which are usable in agriculture,
preferably said method of treatment and/or protection
using quantities of said composition between 1 g/ha and
5 kg/ha.

5 26. A method of treatment and/or protection
which is useful in public health or domestic hygiene,
characterized in that it uses a composition as claimed
in any one of claims 1 to 16 and 19 to 24, in
particular a composition in gelled form, preferably
10 said method of treatment and/or protection using
quantities of said composition between 0.1 and 200 g/m²
of surface to be treated and/or to be protected.

27. The method of treatment and/or
protection as claimed in either of claims 25 and 26,
15 characterized in that it uses a composition which has
been previously ground, minced, chopped, truncated,
crushed, flattened, compressed, pressed, pounded,
laminated, pulverized, milled, comminuted,
disintegrated, fragmented, dispersed, cut, divided,
20 sectioned, sliced or fractionated.

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